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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/514,608	02/28/2000	Pantelis Monogioudis	7-23-2	9279

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Docket Administrator
Lucent Technologies Inc
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EXAMINER	
CORSARO, NICK	
ART UNIT	**PAPER NUMBER**
2684	4

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/514,608	MONOGIOUDIS ET AL.	
	Examiner	Art Unit	
	Nick Corsaro	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *34-37* is/are allowed.

6)☒ Claim(s) *1-8,10-15,17-33 and 38-43* is/are rejected.

7)☒ Claim(s) *9 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2, 3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 02/28/2000 and 04/16/2001 have been received and placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 11-13, 17-20, 23-27, 29, 31, and 38-43, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai et al. (5,386,589) in view of Minde et al. (6,201,960).

Consider claim 1, Kanai discloses a method for use in a communications endpoint (see col. 1 lines 55-68 and col. 2 lines 1-5, where Kanai is discussing power control of transmit terminals by receiver terminals, i.e., endpoints, in a cellular communication system). Kanai discloses determining a parameter of a communications channel (see col. 7 lines 16-25). Kanai discloses performing power control over the communications channel wherein the power control compares a metric value and a target metric value (see col. 7 lines 47-68, col. 8 lines 54-68, and col. 9 lines 1-13). Kanai discloses that the target metric value is adjusted as a function of the determined parameter of the communications channel (see col. 8 lines 15-55).

Kanai discloses determining a parameter of the communication channel by averaging, where logically the signal can be evaluated by other statistical methods to develop a signature (see col. 8 lines 15-68), however, Kanai does not specifically disclose a signature of

communication channel. Minde teaches a signature of the communication channel (see col. 2 lines 60-67, col. 3 lines 1-17, and col. 4 lines 20-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and have a signature of the communication channel, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claim 11, Kanai discloses a method for use in a communications endpoint (see col. 1 lines 55-68 and col. 2 lines 1-5, where Kanai is discussing power control of transmit terminals by receiver terminals, i.e., endpoints in a cellular communication system). Kanai discloses receiving a signal from a wireless endpoint; developing a statistic from the received signal; and performing power control with the wireless endpoint as a function of the second order statistic (see col. 8 lines 25-68, col. 9 lines 1-13, lines 57-68, and col. 7 lines 47-69).

Kanai discloses taking an average of the Bit Error Rate, i.e., a statistic (see col. 8 lines 54-67), however does not specifically disclose a second order statistic. Minde teachers a second order statistic (see col. 4 lines 20-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and a second order statistic, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claim 17, Kanai discloses a method for use in a communications endpoint (see col. 1 lines 55-68 and col. 2 lines 1-5, where Kanai is discussing power control of transmit terminals by receiver terminals, i.e., endpoints in a cellular communication system). Kanai discloses the method comprising the steps of measuring a parameter of a fading environment (see

col. 1 lines 49-55, col. 6 lines 23-30, col. 8 lines 25-68). Kanai discloses performing power control by adjusting a target metric value as a function of the measured signature (see col. 8 lines 25-68, col. 9 lines 1-14, lines 57-68, and col. 7 lines 47-69).

Kanai discloses determining a parameter of the communication channel by averaging, where logically the signal can be evaluated by other statistical methods to develop a signature (see col. 8 lines 15-68), however, Kanai does not specifically disclose a signature of communication channel. Minde teaches a signature of the communication channel (see col. 2 lines 60-67, col. 3 lines 1-17, and col. 4 lines 20-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and have a signature of the communication channel, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claim 24, Kanai discloses an apparatus for use in a communication endpoint (see col. 1 lines 55-68 and col. 2 lines 1-5, where Kanai is discussing power control of transmit terminals by receiver terminals, i.e., endpoints in a cellular communication system). Kanai discloses a receiver for receiving a signal, a controller for (a) developing a parameter of the communications channel from the received signal (see col. 1 lines 49-55, col. 6 lines 23-30, col. 8 lines 25-68). Kanai discloses performing power control over the communications channel by adjusting a target metric value as a function of the parameter of the communications channel (see col. 8 lines 25-68, col. 9 lines 1-14, lines 57-68, and col. 7 lines 47-69).

Kanai discloses determining a parameter of the communication channel by averaging, where logically the signal can be evaluated by other statistical methods to develop a signature

(see col. 8 lines 15-68), however, Kanai does not specifically disclose a signature of communication channel. Minde teaches a signature of the communication channel (see col. 2 lines 60-67, col. 3 lines 1-17, and col. 4 lines 20-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and have a signature of the communication channel, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claim 38, Kanai discloses an apparatus for use in equipment for providing power control in a cellular system (see col. 4 lines 63-68). Kanai discloses a receiver for receiving a signal from a wireless endpoint (see col. 5 lines30-67). Kanai discloses a controller for (a) developing a statistic from the received signal and (b) performing power control with the wireless endpoint as a function of the statistic (see col. 8, lines 25-67, col. 9 lines 1-13, col. 2 lines 57-68, and col. 7 lines 47-69).

Kanai discloses taking an average of the Bit Error Rate (see col. 8 lines 54-67), however does not specifically disclose a second order statistic. Minde teachers a second order statistic (see col. 4 lines 20-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and a second order statistic, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claims 2, 20, and 25, Kanai discloses the metric is a bit error rate (BER) (see col. 8 lines 54-67 and col. 9 lines 1-13).

Consider claims 3, 18, 19, and 39, Kanai discloses the parameter of the channel includes an average bit error rate (BER) and signal power or carrier interference ratio (CIR), where the average is a statistic (see col. 2 lines 5-68), however, does not specifically disclose a signature of the communications channel where the signature is a second order statistic of a received signal-to-noise ratio (SNR). Minde teaches a signature of the communications channel where the signature is a second order statistic of a received signal-to-noise ratio (SNR) (see col. 4 lines 20-67 and col. 5 lines 62-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and have a signature of the communications channel where the signature is a second order statistic of a received signal-to-noise ratio (SNR), as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claims 4, 26, and 29, Kanai does not specifically disclose collecting signal-to-noise (SNR) values of a signal received from the communications channel; and using the collected SNR values to determine the signature of the communications channel. Minde teaches collecting signal-to-noise (SNR) values of a signal received from the communications channel; and using the collected SNR values to determine the signature of the communications channel (col. 4 lines 20-67 and col. 5 lines 62-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and collect signal-to-noise (SNR) values of a signal received from the communications channel; and use the collected SNR values to determine the signature of the communications channel, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claims 5 and 27, Kanai does not specifically disclose calculating a second order statistic of the collected SNR values. Minde teaches calculating a second order statistic of the collected SNR values (see col. 4 lines 20-67 and col. 5 lines 62-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and calculating a second order statistic of the collected SNR values, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claims 6, 23, and 31, Kanai discloses the communications endpoint is a wireless endpoint (see col. 1 lines 55-67).

Consider claim 12, Kanai discloses calculating a statistic of a bit error rate of the received signal; and adjusting a bit error rate target value as a function of the calculated statistic; and the performing step includes the step of performing reverse-link outer loop power control as a function of a comparison between a bit error rate value of the received signal and the adjusted bit error rate target value (see col. 8 lines 15-68 and col. 9 lines 1-14, where Kanai is discussing resetting the system target values to perform reverse power control, therefore, by definition Kanai is performing reverse outer loop power control). Kanai does not specifically disclose calculating a second order statistic of a signal to noise ratio (SNR) as the channel quality measure. Minde teaches calculating a second order statistic of a signal to noise ratio (SNR) as the channel quality measure (see col. 4 lines 20-55 and col. 5 lines 60-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai, and calculating a second order statistic of a signal to noise ratio (SNR) as the

channel quality measure, as taught by Minde, thus allowing the system to account for fast fading, as discussed by Minde (col. 2 lines 14-60).

Consider claim 13, Kanai discloses the communications endpoint is a wireless endpoint (see col. 1 lines 55-67).

Consider claim 40, Kanai discloses the metric is a bit error rate (BER) (see col. 8 lines 54-67 and col. 9 lines 1-13).

Consider claim 43, Kanai discloses a transmitter for transmitting power control information to the mobile (see col. 7 lines 48-68).

4. Claims 7-8, 10, 14-15, 28, 32-33, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Minde as applied to claims 1, 11, 24, and 38 above, and further in view of Wang et al. (6,084,904).

Consider claims 7, 10, 14, 32, and 41 Kanai and Minde do not specifically disclose the metric is a symbol error count. Wang teaches the metric is a symbol error count (see col. 7 lines 9-20, col. 5 lines 67, and col. 6 lines 1-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai and Minde, and have the metric be a symbol error count in outer loop power control, as taught by Wang, thus allowing a decrease in time over which threshold adjustments occur, as discussed by Wang (col. 2 lines 20-25).

Consider claims 8, 15, 33, and 42 Kanai, discloses the method as modified by Minde, wherein the determining step includes the step of monitoring an bit error count of a received signal for determining a standard deviation of the received bit error count; and the performing step includes the step of adjusting a target bit error count for the received signal as a function of

the standard deviation for use in providing the power control (see Kanai col. 8 lines15-68, col. 9 lines 1-47, and Minde col. 4 lines 20-43, where Kanai is discussing measuring the signal quality and Minde is discussing more accurately measuring the signal quality by higher order statistical methods). Kanai and Minde do not specifically disclose a symbol error count. Wang teaches a symbol error count (see col. 7 lines 9-20, col. 5 lines 67, and col. 6 lines 1-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai and Minde, and have the metric be a symbol error count in outer loop power control, as taught by Wang, thus allowing a decrease in time over which threshold adjustments occur, as discussed by Wang (col. 2 lines 20-25).

Consider claim 28, Kanai discloses the method and apparatus, as modified by Minde, wherein second order statistics are used via processors with inherent memories for determining the statistics (see Minde col. 4 lines 5-68). Kanai and Minde do not specifically disclose using tables. Official notice is taken that both the concept and advantage of using look up tables for mapping statistical values rather than calculating all values are well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai and Minde, and use look up tables to map the statistical values, thereby speeding up calculation by having some of the values previously stored for lookup.

5. Claims 21, 22, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Minde as applied to claim 17 and 24, above, and further in view of Dohi et al. (6,341,224).

Consider claims 21, 22, and 30, Kanai discloses the method and apparatus, as modified by Minde above, wherein BER rate is measured and target values are changed such as BER or SNR. Kanai and mind do not specifically disclose changing the SNR target value. Dohi teaches changing the SNR target value (see col. 4 lines 20-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Kanai and Minde, and change the SNR target value, as taught by Dohi, thus allowing accurate system capacity in quickly changing environments, as discussed by Dohi, (col. 2 lines 19-40).

Allowable Subject Matter

6. Claims 9 and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 34-37 are allowed.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(5,623,484), Muszynski teaches Inner and Outer loop power control with adjustable thresholds.

9. Any inquiry concerning this communication should be directed to Nick Corsaro at telephone number (703) 306-5616.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth, Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 customer Service Office whose telephone number is (703) 306-0377.

Nick Corsaro